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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,650	08/01/2003	Malika Dothresa Carter	HSJ920030194US1	3577

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EXAMINER

PRUCHNIC, STANLEY J

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/632,650	Applicant(s) CARTER ET AL.	
	Examiner Stanley J. Pruchnic, Jr.	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/1/03</u> (<u>1 Sheet</u>) | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The references listed in the information disclosure statement (IDS) or PTO-1449 submitted by Applicant on 8/1/03 are acknowledged. The cited references have been considered as indicated by the examiner's initials next to each reference considered.

However the foreign patent(s) and/or document(s) cited by applicant are considered only to the extent they could be understood from the abstract and drawings. Note that the Examiner is citing JP 4 120440 A in the attached PTO form 892 because Applicant did not provide the complete document.

Drawings

2. The drawings are objected to because Fig. 5 has incorrect spelling: e.g., In Block 512, the word "SUFFICEINT" should be --SUFFICIENT--; and in block labeled 514, "LOOSES" should be spelled --LOSES--. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
4. The disclosure is objected to because of the following informalities: Please update the identification of the related case in the first paragraph on Page 1 to include the serial number of the related application (10/632,507, filed 1 August 2003).

Appropriate correction is required.

Claim Objections

5. Claims 1 and 8 are objected to because of the following informalities:
- In Claim 1, in Line 1, please delete the acronym "VTGA" and replace therefor the phrase -- **vacuum thermogravimetric analyzer (VTGA)**-- in order to more clearly describe the invention.
 - In Claim 1, in Line 4, perhaps the phrase --slug temperature-- should be inserted before the word "values" in order to more clearly describe the invention.
 - In Claim 8, in Line 1, please delete the acronym "VTGA" and replace therefor the phrase -- **vacuum thermogravimetric analyzer (VTGA)**-- in order to more clearly describe the invention.
 - In Claim 8, in Line 4, perhaps the phrase --slug temperature-- should be inserted before the word "values" in order to more clearly describe the invention.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by **TCHERNEV** (U. S. Patent No. 4,208,911).

TCHERNEV discloses a set of standards (Fig. 1; Col. 1, Lines 13-39), comprising:

a plurality of ferromagnetic slugs, each of said ferromagnetic slugs having a Curie temperature wherein the value of said Curie temperature falls within a preselected range of values (Col. 2, Lines 64-66),

wherein each slug is comprised of an alloy containing an amount of a ferromagnetic constituent and an amount of a non-ferromagnetic constituent (Col. 2, Lines 16-43), and

wherein the amounts of said ferromagnetic constituent and non-ferromagnetic constituent are selected (Col. 4, Lines 65-68) to provide a ferromagnetic slug having a Curie temperature within said preselected range of values (Fig. 1; Col. 4, Lines 49-51).

Further regarding Claim 2, **TCHERNEV** discloses a set of standards wherein said preselected range of Curie temps is between from about 50 C (Fig. 1; wherein each data point represents one of the set of standards) to about 200 C.

Further regarding Claim 3, **TCHERNEV** discloses said ferromagnetic constituent is selected from the group consisting of Fe, Co, Ni and Gd (**TCHERNEV** discloses Nickel, Ni).

Further regarding Claim 4, **TCHERNEV** discloses said ferromagnetic constituent is Ni and said non-ferromagnetic constituent is selected from the group consisting of Al, Cr, Mo, Ti, W, Mn, Zn and Cu (Col. 2, Line 67 through Col. 3, Line 22, and in particular, Zn is selected by **TCHERNEV** in the exemplar of Fig. 1.

Further regarding Claims 5-6, **TCHERNEV** teaches that "T" in the general formula for a spinel ferrite of the invention (Col. 2, last line) may include any metal from the "R" group that is non-ferromagnetic (e.g., Cu) wherein the "R" group includes, the elements having atomic numbers 22-30, thus inherently including Nickel (Ni, atomic

number 28) and Copper (Cu, atomic number 29). Thus, **TCHERNEV** discloses said ferromagnetic constituent is Co or Fe and said non-ferromagnetic constituent is selected from the groups as claimed by Applicant since these are members of the (non-ferromagnetic) group "T" defined by **TCHERNEV** (Col. 2, Line 67 through Col. 3, Line 22, and in particular, Zn is selected by **TCHERNEV** in the exemplar of Fig. 1.

Further regarding Claim 7, **TCHERNEV** discloses said ferromagnetic slugs are annealed (Col. 6, Lines 2-11) to remove voids and imperfections in the crystalline structure, which would result in removing spurious magnetic transitions.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. **Claims 8-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **TCHERNEV**.

The recitation "for the temperature calibration of a VTGA" has not been given any patentable weight since the recitation occurs in the preamble as stated above with respect to Claims 1-7.

TCHERNEV discloses or suggests a set of standards, comprising:

a plurality of ferromagnetic slugs, each of said ferromagnetic slugs having a Curie temperature wherein the value of said Curie temperature falls within a preselected range of values, wherein each slug is comprised of an alloy containing Ni and Cu as claimed by Applicant in Claim 8.

Further regarding Claim 9, **TCHERNEV** discloses said ferromagnetic slugs are annealed (Col. 6, Lines 2-11) to remove voids and imperfections in the crystalline structure, which would result in removing spurious magnetic transitions.

TCHERNEV does not disclose the amount of Cu is within the range of 15% to 28% as claimed by Applicant in Claim 8 or that the slugs are annealed at approximately 300C for approximately 1 Hr.

TCHERNEV already disclosed annealing the slugs and selecting amounts of materials in order to obtain a desired Curie transition temperature. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of Cu (atomic number 29) to make an equivalent alloy containing an amount of a ferromagnetic constituent (Ni) and an amount of a non-ferromagnetic constituent (Cu), as taught by **TCHERNEV**, and to choose an amount of Cu in the range of 15% to 28%, by routine experimentation, in order to form slugs having the Curie transition temperature desired, and to optimize the conditions for annealing the slugs at approximately 300C for approximately 1 Hr by routine experimentation, in order to remove voids and imperfections in the crystalline structure as taught by **TCHERNEV**.

Conclusion

11. It is noted, but not relied on, that Applicant has already admitted in the Specification, Page 5, Lines 10-11) that Monel, a CuNi alloy with about 28-30% by weight of Cu, has been used as a standard for the Curie point magnetic transition.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in a form PTO-892 and not mentioned above disclose related devices and methods.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanley J. Pruchnic, Jr., whose telephone number is **(571) 272-2248**. The examiner can normally be reached on weekdays (Monday through Friday) from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached at **(571) 272-2245**.

The **Official FAX** number for Technology Center 2800 is **(703) 872-9306** for **all official communications**.

Any inquiry of a general nature or relating to the status of this application or proceeding may be directed to the official USPTO website at **<http://www.uspto.gov/>** or you may call the **USPTO Call Center** at **800-786-9199** or 703-308-4357. The Technology Center 2800 Customer Service FAX phone number is (703) 872-9317.

The cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources.

Private PAIR provides external customers Internet-based access to patent application status and history information as well as the ability to view the scanned images of each customer's own application file folder(s).

For inquiries relating to Patent e-business products and service applications, you may call the **Patent Electronic Business Center (EBC)** at **703-305-3028** or toll free at **866-217-9197** between the hours of **6 a.m. and midnight Monday through Friday EST**, or by e-mail at: **ebc@uspto.gov**. Additional information is available on the Patent EBC Web site at: **<http://www.uspto.gov/ebc/index.html>**.



Stanley J. Pruchnic, Jr.
6/28/04



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